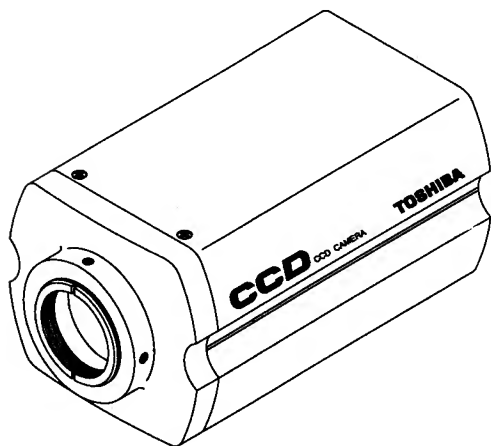


IK-539A

CCD MONOCHROME CAMERA

INSTRUCTION MANUAL



IMPORTANT SAFEGUARDS

1. Read Instructions

All the safety and operating instructions should be read before the product is operated.

2. Retain Instructions

The safety instructions and instruction manual should be retained for future reference.

3. Heed Warnings

All warnings on the product and in the instruction manual should be adhered to.

4. Follow Instructions

All operating and use instructions should be followed.

5. Cleaning

Disconnect this video product from the power supply before cleaning.

6. Attachments

Do not use attachments not recommended by the video product manufacturer as they may cause hazards.

7. Water and Moisture

Do not use this video product near water — for example, near a bath tub, wash bowl, kitchen sink, or laundry tub, in a wet basement, or near a swimming pool and the like.

8. Accessories

Do not place this video product on an unstable cart, stand, tripod, bracket or table. The video product may fall, causing serious injury to a child or adult, and serious damage to the product. Use only with stand, tripod, bracket, or table recommended by the manufacturer, or sold with the video product. Any mounting of the product should follow the manufacturer's instructions, and should use a mounting accessory recommended by the manufacturer.

9. Ventilation

This video product should never be placed near or over a radiator or heat register. This video product should not be placed in a built-in installation such as a bookcase or rack unless proper ventilation is provided or the manufacturer's instructions have been adhered to.

10. Power Sources

This video product should be operated only from the type of power source indicated on the marking label. If you are not sure of the type of power supply to your location, consult your power dealer.

11. Power-Cord Protection

Power-Supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, paying particular attention to cords at plugs, screws, and the point where they exit from the product.

12. Lightning

For added protection for this video product during a lightning storm, or when it is left unattended and unused for long periods of time, unplug it from the wall outlet and disconnect the power supply and cable system. This will prevent damage to the video product due to lightning and power - line surges.

13. Overloading

Do not overload power supply and extension cords as this can result in a risk of fire or electric shock.

14. Object and Liquid Entry

Never push objects of any kind into this video product through openings as they may touch dangerous voltage points or short-out parts that could result in a fire or electrical shock. Never spill liquid of kind on the video product.

15. Servicing

Do not attempt to service this video product yourself as opening or removing covers may expose you to dangerous voltage or other hazards. Refer all servicing to qualified service personnel.

16. Damage Requiring Service

Disconnect this video product from the power supply and refer servicing to qualified service personnel under the following conditions.

- When the power-supply cord or plug is damaged.
- If liquid has been spilled, or objects have fallen into the video product.
- If the video product has been exposed to rain or water.
- If the video product does not operate normally by following the operating instructions in the instruction manual. Adjust only those controls that are covered by the instruction manual as an improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the video product to its normal operation.
- If the video product has been dropped or the cabinet has been damaged.
- When the video product exhibits a distinct change in performance — this indicates a need for service.

17. Replacement Parts

When replacement parts are required, be sure the service technician has used replacement parts specified by the manufacturer of have the same characteristics as the original part. Unauthorized substitutions may result in fire, electric shock or other hazards.

18. Safety Check

Upon completion of any service or repairs to this video product, ask the service technician to perform safety checks to determine that the video product is in proper operating condition.

This installation should be made by a qualified service person and should conform to all local codes.



- The CAUTION label, shown on the left, is attached on the bottom of camera.



The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

WARNING:

TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.

CAUTION

- **CONNECT 24V AC UL LISTED CLASS 2 POWER SUPPLY.**

INFORMATION

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

USER-INSTALLER CAUTION: Your authority to operate this FCC verified equipment could be voided if you make changes or modifications not expressly approved by the party responsible for compliance to Part 15 of the FCC rules.

THIS CLASS A DIGITAL APPARATUS MEETS ALL REQUIREMENTS OF THE CANADIAN INTERFERENCE-CAUSING EQUIPMENT REGULATIONS.
CET APPAREIL NUMÉRIQUE DE LA CLASSE A RESPECTE TOUTES LES EXIGENCES DU RÈGLEMENT SUR LE MATÉRIEL BROUILLEUR DU CANADA.

1. FEATURES & DESCRIPTION:

This camera is a high resolution CCD MONOCHROME video camera designed for EIA system. With the adoption of a CCD, the camera produces an image with reduced lag, little geometric distortion and has good resistance to vibration and mechanical shock. With those features shown below, this series is suitable for surveillance application or as an input device for an image processing system.

(1) High resolution:

The camera can produce an image with horizontal resolution over 570 TV lines.

(2) High sensitivity:

With minimum illumination at 0.08 lux (F1.4, 3200K) ensures this unit can produce a good image even in very low light condition.

(3) Line-lock mode:

Based on this unique design, the image would be stable as viewed from a video monitor controlled by a switcher, so this unit is suitable for surveillance system application.

(4) Automatic electronic shutter (AES):

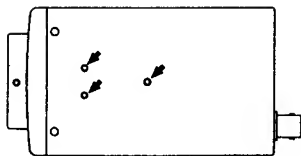
The unit automatically adjusts shutter speed according to the subject brightness so that the amount of exposure is steady.

(5) Internal Sync. mode:

To set the camera at "Internal Sync. mode" will keep this camera working properly when the frequency of the AC power is 50 Hz. Please contact TAIS Service Center if you need to set your camera at "Internal Sync. mode".

2. CAUTIONS:

- (1) In order to protect the camera, avoid placing or using it under direct sunlight, rain or dust. (Indoor use only.)
- (2) Don't touch the CCD sensor directly with your fingers, If necessary, use soft cloth moistened with alcohol to wipe off the dust.
- (3) When the camera is not in use, keep the lens or cap being attached to protect the CCD sensor.
- (4) Connect AC 24V UL listed class 2 for power supply.
- (5) Don't drop your camera or give it a strong shock or vibration, or it will incur malfunction.
- (6) Keep clean the video out connector and AC 24V input terminals.
- (7) When using the camera on a tripod, fasten the tripod attachment base to the camera using three of tapped holes and secure the tripod with the fastening attached three screws.

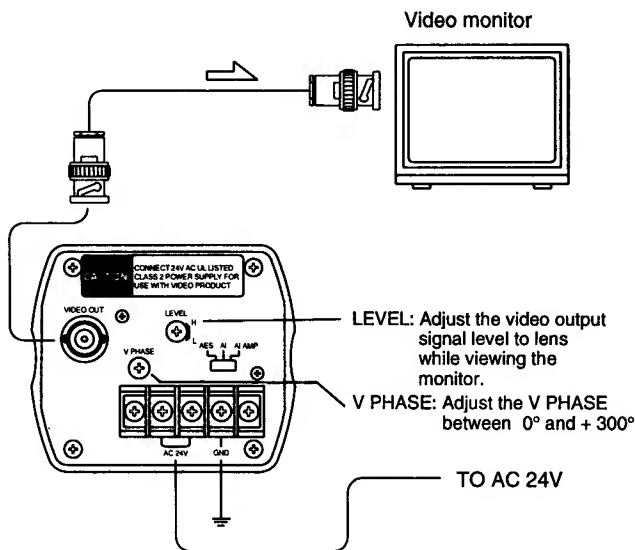


3. SYSTEM COMPONENTS:

Camera	1
Instruction manual	1
Lens mount cap	1
Hexagonal wrench	1
IRIS 4 pins plug, E4-191J-100	1
Tripod mounting base	1
Adapter ring	1

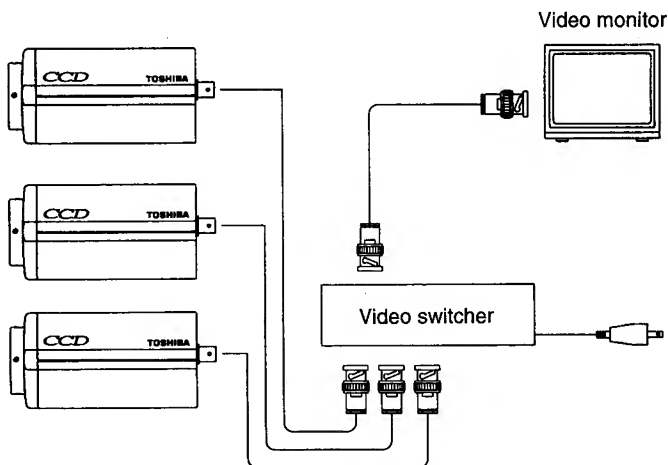
4. CONNECTION:

(1) When using one camera and one monitor:



Connect AC 24V UL listed class 2 for power supply.

(2) When using several cameras and one monitor:



(3) When using the auto IRIS lens (with amplifier):

(a) Set the slide switch (on rear panel) to AI position.

(b) Connect the AI lens cable to the IRIS connector on left side of camera.

(4) When using the auto IRIS lens (without amplifier) :

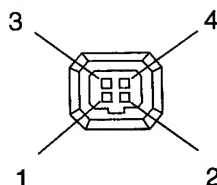
(a) Set the slide switch (on rear panel) to AI AMP position.

(b) Connect the auto IRIS lens cable to the IRIS connector on left side of camera.

NOTE : Please refer to the pin definitions and figure shown below to ensure correct operation.

IRIS pin definition

	AI	AI AMP
1	+12V	DAMP - (y)
2	NC	DAMP + (r)
3	VIDEO	DRIVER + (wh)
4	GND	DRIVER - (g)



5. OPERATION PROCEDURE:

- (1) Before operation make sure the power source is correct for your camera.
- (2) Install lens to the camera.
- (3) Connect the VIDEO output to the Video monitor. The picture will appear on the monitor screen as the power is supplied to the camera.
- (4) Adjust the focus and aperture of the lens to get a best quality image.
- (5) Back focus adjustment:

In general, the back focus is calibrated in the factory. So readjustment is unnecessary. But depending on your application, back focus readjustment may be necessary. In this case, set the focus ring of the lens to the ∞ position and take a picture at a distance of 20m or more. Then, loosen the lens mount and turn the lens and mount at the same time till the picture on the monitor is in focus. Now, tighten the screws on the mount by hexagonal wrench.

- (6) Line-Lock mode

When two or more cameras are switched by the video switcher for monitoring on a TV monitor, the picture may fluctuate due to different AC line phase of each camera. In this case, adjust the VERTICAL PHASE (on rear panel) trimmer to get a stable picture.

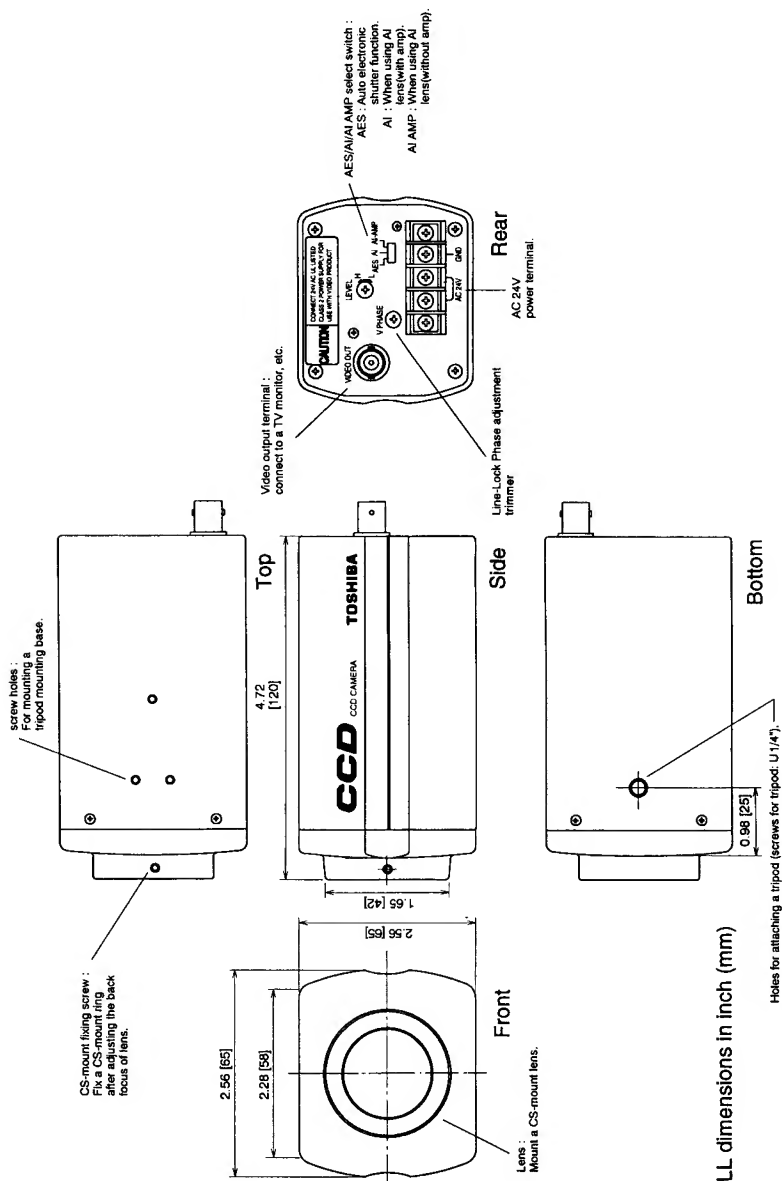
6. SPECIFICATION :

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CCD MONOCHROME CAMERA EIA SYSTEM

Image Area	5.24mm x 6.4mm
Pickup Elements	768(H) x 494(V) Pixels 1/3" Interline Transfer CCD
Scanning System	2:1 Interlace EIA , V: 60Hz, H: 15.750kHz
Sync System	Linelock AC / Internal (Inside camera)
Video Output	1 V(p-p) Composite Output, 75ohms
Lens Mount	CS Mount / C Mount
Resolution	570 TV Lines (Horizontal)
Gamma Correction	0.45
Minimum Illumination	0.08 Lux (F1.4, 3200K)
S/N Ratio	48 dB
Power Requirement	AC 24V
Power Consumption	5.5 W
Ambient	-10~50°C / 30~90%RH
Dimensions	120(L) x 70(W) x 60(H)mm 4.72(L) x 2.76(W) x 1.26(H) inch
Weights	700 g
Shutter Control	Auto:1/60 To 1/100000 Sec.
Iris Control	Video Out / Iris Driver Circuit Built In
Gain Control	Average AGC

7. PART NAMES & FUNCTIONS :



* ALL dimensions in inch (mm)

LIMITED WARRANTY TOSHIBA CCD CAMERA

Toshiba America Information Systems, Inc. ("TAIS"), makes the following limited warranties. These limited warranties extend to the original enduser purchaser.

Limited One (1) Year Warranty of Labor and Parts

TAIS warrants this product and its parts against defects in materials or workmanship for a period of one year after the date of original retail purchase.

During this period, TAIS will repair a defective product or part, without charge to you. You must deliver the entire product to a TAIS Service Center.

You pay for all transportation and insurance charges for the product to the Service Center.

Instruction Manual (Owner's Manual)

You should read the instruction manual (owner's manual) thoroughly before operating this product.

Your Responsibility

The above warranties are subject to the following conditions:

1. You must retain your bill of sale or provide other proof of purchase.
2. You must notify TAIS Service within thirty (30) days after you discover a defective product or part.
3. All warranty servicing of this product must be made by TAIS Service Center.
4. These warranties are effective only if the products is purchased and operated in the U.S.A.
5. Labor service charges for installation and adjustment of customer controls are not covered by this warranty.
6. Warranties extend only to defects in materials or workmanship as limited above and do not extend to any product or parts which have been lost or discarded by you or to damage to products or parts caused by misuse, accident, improper installation, improper maintenance or use in violation of instructions furnished by us; or to units which have been altered or modified without authorization of TAIS or to damage to products or parts there of which have had the serial number removed, altered, defaced or rendered illegible.

Step-By-Step Procedures—How to Obtain Warranty Service

To obtain warranty servicing, you should:

1. Contact TAIS Service Center listed below for warranty service within thirty (30) days after you find a defective product or part.
2. Arrange for the delivery of the product to TAIS Service Center. Products shipped to the Service Center must be insured and safely and securely packed, preferably in the original shipping carton, and a letter explaining the defect and also a copy of the bill of sale or other proof of purchase must be enclosed. All transportation and insurance charges must be prepaid by you.
3. If you have any questions about service, please contact the following TAIS Service Center:

9740 Irvine Blvd. Irvine, CA 92713-9724

Phone Number: (714) 461-4900

ALL WARRANTIES IMPLIED BY STATE LAW, INCLUDING THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, ARE EXPRESSLY LIMITED TO THE DURATION OF THE LIMITED WARRANTIES SET FORTH ABOVE. Some states do not allow limitations on how long an implied warranty lasts, so the above limitation may not apply to you. **WITH THE EXCEPTION OF ANY WARRANTIES IMPLIED BY STATE LAW AS HEREBY LIMITED, THE FOREGOING EXPRESS WARRANTY IS EXCLUSIVE AND IN LIEU OF ALL OTHER WARRANTIES, GUARANTEES, AGREEMENTS AND SIMILAR OBLIGATIONS OF MANUFACTURER OR SELLER WITH RESPECT TO THE REPAIR OR REPLACEMENT OF ANY PRODUCT OR PARTS.**

IN NO EVENT SHALL TAIS BE LIABLE FOR CONSEQUENTIAL OR INCIDENTAL DAMAGES. Some states do not allow the exclusion or limitation of incidental or consequential damages so the above limitation may not apply to you.

No person, agent, distributor, dealer, service station or company is authorized to change, modify or extend the terms of these warranties in any manner whatsoever. The time within which an action must be commenced to enforce any obligation of TAIS arising under this warranty or under any statute, or law of the United States or any state thereof, is hereby limited to one year from the date you discover or should have discovered, the defect. This limitation does not apply to implied warranties arising under state law. Some states do not permit limitation of the time within which you may bring an action beyond the limits provided by state law so the above provision may not apply to you. This warranty gives you specific legal rights and you may also have other rights which vary from state to state.

TOSHIBA AMERICA INFORMATION SYSTEMS, INC.

TOSHIBA